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**Brexit or Bremain? A Person and Social Analysis of Voting Decisions in the EU
Referendum**

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Abstract

The period following the UK's EU referendum in 2016 foreshadows significant social and political change in the UK. The current research draws on social psychological theories to empirically examine the drivers of voting decisions during the referendum. We report the results of a prospective study using structural equation modelling with data ($N = 244$) collected just before, and self-reported voting behavior immediately following ($N = 197$), the EU referendum. We employ a person and social approach to examine the additive roles of worldview, conservatism, social identity, and intergroup threat as predictors of voting intentions and behavior. Results showed that person factors (worldview and conservatism) predicted voting intentions through social factors (European identity and realistic threat), and that intentions predicted behavior. The results highlight the importance of addressing threat-based intergroup rhetoric, and the potential of common ingroup identity to mitigate psychological threat.

Keywords: Brexit referendum, intergroup threat, social identity, dangerous worldview, political ideology

Brexit or Bremain? A Person and Social Analysis of Voting Decisions in the EU Referendum

On the 23rd June 2016 the UK public voted to leave the EU with a 52% majority, following a campaign that was both acrimonious and that exposed a range of social divisions (Abrams, 2016; Parveen & Sherwood, 2016). But what fueled such a deep division? Many public figures and reporters speculated about the drivers of the Brexit vote. Some of these speculations included: that people felt “left behind”, that people felt uncomfortable with the social changes in Britain, and that people felt an “us vs. them” divide between British people and immigrants (e.g., BBC News, 2016; Chu, 2016; Mason, 2016). In light of such psychological speculations it is essential to draw on theoretically grounded empirical research to understand evidence regarding motivations for people’s voting decisions.

We employ a person and social approach (Hodson & Dhont, 2015) to investigate the predictive effects of four factors on voting decisions. We examine two person-focused individual difference factors (conservatism, dangerous worldview) and two group-focused contextually relevant factors (social identity and intergroup threat) and draw on four well-established social psychological theories that seem particularly relevant. These are social identity theory (Tajfel & Turner, 1979), common ingroup identity theory (Gaertner & Dovidio, 2000), motivated social-cognition theory (Jost, Glaser, Kruglanski, & Sulloway, 2003), and integrated threat theory (Stephan & Stephan, 2000).

Worldview and Ideology

People’s responses to societal issues can be strongly influenced by individual difference factors (e.g., Dhont, Hodson, & Leite, 2016; Hodson & Dhont, 2015). We examine the impact of individual differences in worldview and ideology on voting decisions because both seem highly relevant to existential decisions such as remaining in or leaving a major social group.

Belief in a dangerous world is a relatively stable and chronically accessible schema about the social world (Duckitt, 2001). It reflects the extent to which people perceive the world as a threatening, dangerous, and unpredictable place (Duckitt, 2001). While dangerous worldview can be responsive to social context and in particular to situational threats (e.g., Duckitt & Fisher, 2003; Morgan, Shanahan, & Signorielli, 2009), it tends to remain relatively stable over time (Sibley, Wilson, & Duckitt, 2007). Research shows that perceiving the world as a dangerous place activates the motivational goal of social control and security, and is hence strongly associated with ideological belief systems that aim to achieve control, particularly right-wing authoritarianism and conservatism (Duckitt, Wagner, Du Plessis, & Birum, 2002; Sibley & Duckitt, 2013). Dangerous worldview is also associated with exclusionary-immigration attitudes (Green et al., 2010) and policy preferences (Perry & Sibley, 2013). However, to our knowledge no research has directly examined the relationship between belief in a dangerous world and voting decisions bearing on major political change.

The current research also examines the relationship between political ideology and voting decisions in the EU referendum. Jost et al.'s (2003) model of political ideology holds that conservatism is a motivated social cognition that helps people satisfy their epistemic and existential psychological needs for certainty and security (see Jost et al., 2003; Jost, 2017). Indeed, research consistently shows that conservatism is associated with intolerance of ambiguity (Sidanius, 1978), need for closure (Webster & Kruglanski, 1994), and uncertainty avoidance (Wilson, 1973). Moreover, conservatism is a strong and consistent predictor of prejudice, anti-immigrant attitudes, and socio-political attitudes and decisions (Meleady, Seger, & Vermue, 2017; Van Assche, Roets, De Keersmaecker, & Van Hiel, 2016).

The current study explores whether and how worldview (belief in a dangerous world) and ideology (conservatism) predict real-world voting decisions in the EU referendum. Given the nature of EU referendum rhetoric by the Leave campaign, it seems likely that some parts

of the electorate were persuaded that the referendum offered an opportunity to resist globalization, and to regain a sense of independence and control. Given that individuals high in dangerous worldview and in political conservatism tend to avoid uncertainty and threat (Jost et al., 2003), it seems likely that these person variables may have played an important role in predicting voting decisions in the EU referendum, and in particular may have positively predicted a Leave vote.

Integrated Threat Theory

“Tuberculosis is costing the National Health Service a great deal of money, and much of that is coming from Southern and Eastern Europe. The National Health Service is for British people and for families who have paid into this system for generations.” (Nigel Farage, UK Independence Party, Member of the European Parliament)

Dangerous worldview reflects relatively stable views of the world as a generally dangerous and threatening place. However, individuals can also perceive situation specific threats, such as those targeted at specific social groups (Abrams & Eller, 2017). According to the intergroup threat theory, “intergroup threat is experienced when members of one group perceive that another group wishes to, or is in a position to, cause them harm” (Stephan, Ybarra, & Rios Morrison, 2009, p. 256). Throughout 2016 immigration and national sovereignty were highly salient issues for many EU countries, especially the UK (Cap, 2017). Therefore, we expected that perceived intergroup threat would play an important mediating role in the relationship between individual factors and voting decisions in the referendum. This is consistent with research showing that perceived intergroup threats predict intergroup bias, prejudice, and voting decisions (Abrams et al., 2017; Major, Blodorn, & Blascovich, 2016; Onraet, Dhont, & van Hiel, 2014; Stephan & Stephan, 2000; Van de Vyver, Houston, Abrams, & Vasiljevic, 2016). We examined three types of intergroup threat outlined in integrated threat theory - symbolic threat, realistic threat, and intergroup anxiety (Stephan & Stephan, 2000; Stephan et al., 2009). Symbolic threat refers to concerns over the validity and

integrity of the ingroup. Realistic threat refers to concerns over safety and well-being, and general loss of control over power and resources. Intergroup anxiety refers to feelings of uneasiness in the presence of outgroup members due to uncertainty about how to interact with them.

Effects of each type of threat may vary by context (Abrams et al., 2017). For example, Major et al. (2016) showed that a specific type of realistic threat (group status threat) predicted increased support for Trump as well as anti-immigration policies. Pereira, Vala, and Costa Lopes (2010) showed in a cross-cultural study involving 21 European countries that realistic threat, more so than symbolic threat, predicted opposition to immigration. Bizman and Yinon (2001) found that realistic threat, but not symbolic threat, predicted negative attitudes towards immigrants, following an increase in the number of seats of an immigrant political party in parliament. Newman, Hartman, and Taber (2012) showed that symbolic threat predicted opposition to immigration in the United States. Riek, Mania, Gaertner, McDonald, and Lamoreaux (2010) showed that symbolic threat and intergroup anxiety, but not realistic threat, predicted outgroup attitudes among White and Black American students.

These varied findings for the predictive effects of symbolic threat, realistic threat, and intergroup anxiety are consistent with the threat-specificity hypothesis (see Abrams et al., 2017), which suggests that the impact of different types of intergroup threat on outgroup attitudes varies by the specific time periods and contexts. We therefore examine whether threat-specificity occurred in the Brexit context, and which type(s) of intergroup threat predicted voting. Political and economic theory might assume that realistic threat would bear more strongly on voting decisions (Eder, Mochmann, & Quandt, 2015; Hirschman, 1970), whereas psychological theory might place at least as much weight on symbolic threat and intergroup anxiety. Both types could play a role, for example, depending on whether voters were more attuned to messages that European immigrants contribute positively to the UK

economy, and share many cultural values and norms with the ingroup (as argued by the Remain campaign), or the reverse, as highlighted by the quotation from Nigel Farage (above).

Social Identity Theory and Common Ingroup Identity Theory

Social identity theory holds that group members seek a positive value for their social groups, as this contributes to their sense of worth and self-esteem (Tajfel & Turner, 1979). Ingroup biases arise because an ingroup's value is derived in part through comparison with other social groups. One implication is that people who identify more strongly as a member of a particular social group might also perceive more outgroup threat and may exhibit more hostility and discrimination (e.g., Doosje, Zimmermann, Küpper, Zick, & Meertens, 2009; Stephan et al., 2009). For example, Scottish young people's voting intentions to support Scottish separatism was associated with stronger ingroup identity both in the 1980's (Abrams & Grant, 2012) and more recently in the 2014 Scottish independence referendum (Grant, Bennett, & Abrams, 2017).

In the 2016 EU referendum both UK identity and the more inclusive level of identity (as European) were salient in the campaigns to Remain in or Leave because the vote was to decide whether the UK would or would not leave the European superordinate category. The Common Ingroup Identity Model (Gaertner & Dovidio, 2000) suggests that identifying with a superordinate common group (including both the ingroup and the outgroup) reduces intergroup bias. This occurs because ingroup favoritism generalizes to the (embedded) outgroup. Ample research has now shown that common group identities improve outgroup attitudes as well as behaviors (e.g., Dovidio, Gaertner, Shnabel, Saguy, & Johnson, 2009; Kunst, Thomsen, Sam, & Berry, 2015; Levine, Prosser, Evans, & Reicher, 2005). For example, Zhong, Galinsky, and Unzueta (2008) demonstrate how common ingroup identity predicted a shift in voting preferences in the context of the US presidential elections (Zhong et al., 2008).

Given that British people were voting about whether to leave a superordinate category, their self-categorization would be directly affected by the outcome. Although they would remain British, they were deciding specifically on whether to retain the superordinate level, European. Therefore, it seemed likely that it was the European (rather than British) identification that would have most strongly predicted voting decisions. Note that it is feasible for both levels of identification (British and European) to influence voting independently (British identity does not preclude common ingroup identity as European). Indeed, factors other than the desire for positive distinctiveness may motivate intergroup behavior (Abrams & Hogg, 1988), and ingroup love does not necessarily entail outgroup antipathy (cf. Brewer, 1999). In other words, we propose that British as well as European identity may independently predict voting decisions, but that the impact of European identity on EU referendum voting decisions may be especially important.

The Present Research

The current research builds on person and social approaches to understand and predict social attitudes and behaviors (see Hodson & Dhont, 2015 for review). As outlined above, separate strands of research have shown that ideology (Jost et al., 2003), worldview (Perry & Sibley, 2013), perceived intergroup threat (Major et al., 2017), and social identity (Grant et al., 2017) are important predictors of people's socio-political attitudes and choices. The current paper integrates these relatively separate areas of research to explore whether these variables predicted voting decisions in the EU referendum. Specifically, using data collected from a sample of respondents just before the EU referendum and their self-reported voting behavior measured after the referendum, we test the proposition that person variables (dangerous worldview and conservatism) are distal predictors of voting, whose effects are mediated by the more proximal situationally focused social variables of threat and identification.

Hypotheses

We hypothesize that person factors (conservatism and dangerous worldview) and social factors (perceived intergroup threat and social identity) predict voting decisions in the EU referendum. Moreover, we propose a sequential mediation model whereby person factors exert their influence on voting decisions through their impact on social factors. Specifically, those who score higher on dangerous worldview and conservatism should perceive greater intergroup threat and would therefore be more likely to vote Leave. Similarly, we hypothesize that those who score higher on conservatism and dangerous worldview hold on more tightly to their British identity (matching the rhetoric of “closing borders” and becoming “great again”) and would therefore be more likely to vote Leave. Finally, we hypothesize that those who score lower on conservatism and dangerous worldview should be more likely to categorize themselves as part of the superordinate European identity and would therefore be more likely to vote Remain. We investigate these indirect effects in the present research.

These propositions are in line with past research which shows that person factors such as dangerous worldview predict social factors such as perceived intergroup threat (e.g., Duckitt, 2001; Jost et al., 2003; Sibley & Duckitt, 2013). However, it is important to note that research has also shown evidence for an alternative model whereby social factors such as situational threats can influence person factors (Duckitt & Fisher, 2003; Morgan, Shanahan, & Signorielli, 2009). Indeed, in the current context it is plausible that perceived situational threats (e.g., the Paris attacks; the refugee crisis; the murder of British MP Jo Cox) may have influenced person factors such as dangerous worldview, which then may have encouraged pro-Leave voting. Nevertheless, because dangerous worldview and conservatism are person factors they should remain relatively stable over time (Sibley et al., 2007). In contrast, the salience of perceived threats and social identities inherently vary by social context (Abrams

& Eller, 2017). Thus, it seems likely that person factors may exert a greater impact on individuals' perceived situational threats and their social identities than situational threats and social identities are likely to exert on person factors. Put differently, even though person factors can be responsive to situational threats, it seems unlikely that these temporary and/or relatively small-level changes in person factors would contribute substantially to major voting decisions. However, to provide a stronger test of our hypotheses we also test an alternative model in which the social factors predict voting decisions through person factors.

Method

Participants and Procedure

Data were collected two weeks prior to the EU referendum. Participants were invited to take part in an online study that gauged people's relationships with others, their social network, their attitudes towards others, and their opinion about immigration and about the EU Referendum. Participants were recruited online via Prolific Academic (a crowdsourcing website). A total of 244 participants were recruited. Participants were 132 female, 111 male and 1 transgendered/other gender British participants, ranging from 18 to 71 ($M_{\text{age}} = 34.05$, $SD = 12.35$) years of age. Participants' political orientation was slightly skewed to the left side of the political scale ($M = 3.31$, $SD = 1.36$ where 1 = *very liberal* and 7 = *very conservative*). All participants were followed up one week after the referendum to measure their actual voting decision. A total of 197 participants responded at follow-up. Our target sample size of at least 190 participants was selected to provide 80% power to identify effect sizes of $r = .25$ (Faul, Erdfelder, Buchner, & Lang, 2009), in line with previous findings for the role of social psychological variables in predicting voting decisions (Grant et al., 2017).

Measures¹

Dangerous worldview. Dangerous worldview was measured using three items (e.g., "Every day as society become more lawless and bestial, a person's chances of being robbed,

assaulted, and even murdered go up and up”; *1 = strongly disagree; 5 = strongly agree*; Duckitt et al., 2002). Cronbach’s alpha was .87.

Conservatism. Conservatism was measured using three items (Skitka, Mullen, Griffin, Hutchinson, & Chamberlin, 2002). Participants were asked to describe their political attitudes and beliefs 1) in general, 2) in terms of economic issues, and 3) in terms of social issues (*1 = very liberal; 7 = very conservative*). Cronbach’s alpha was .92.

Social identity. British and European identity were measured using four items adapted from Abrams, Ando, and Hinkle’s (1998) ingroup identification scale (*1 = strongly disagree; 7 = strongly agree*): “Being British [European] is important to me”, “I feel proud to be British [European]”, “Being British [European] is an important part of my self-image”, and “I am glad to be British [European]”. We averaged participants’ responses to create a British identification score (Cronbach’s alpha = .92) and a European identification score (Cronbach’s alpha = .94).

Perceived intergroup threat. Realistic threat in response to Western European immigrants was measured using three items which were repeated to measure realistic threat in response to Eastern European immigrants (e.g., “Nowadays, immigrants from Western [Eastern] Europe have too much political power and responsibility in our country”; *1 = strongly disagree; 5 = strongly agree*; based on Stephan & Renfro, 2002). We measured perceived threat posed by both European groups separately in order to control for potential differences in attitudes towards the two groups. However, initial principal components analysis showed that all six items loaded onto one realistic threat factor (all factor loadings > .83). Cronbach’s alpha was .94.

Symbolic threat in response to Western European immigrants was measured using three items which were repeated to measure symbolic threat in response to Eastern European immigrants (e.g., “Immigrants from Western [Eastern] Europe do not have the same

mentality as British people”; *1 = strongly disagree; 5 = strongly agree*; based on Stephan & Renfro, 2002). Initial principal components analysis showed that all six items loaded onto one symbolic threat factor (all factor loadings > .82). Cronbach’s alpha was .92.

Intergroup anxiety in response to Western European immigrants was measured using three items which were repeated to measure intergroup anxiety in response to Eastern European immigrants (e.g., “I feel anxious when interacting with immigrants from Western [Eastern] Europe”; *1 = strongly disagree; 5 = strongly agree*; based on Stephan & Stephan, 1985). Initial principal components analysis showed that all six items loaded onto one intergroup threat factor (all factor loadings > .90). Cronbach’s alpha was .96.

Voting decisions. Voting intentions were measured by asking participants “If you were to vote in the referendum what would you vote for?” (*1 = Stay in the EU, 2 = Leave the EU, 3 = not sure yet*). Voting intentions were distributed as follows: 63.8% would vote to Remain, 26.3% would vote to Leave, and 10% were not sure. In the analyses below voting intentions were coded as follows: 1 = vote Remain / unsure, 2 = vote Leave. This reflects intentions to not vote for change versus voting for change ². While this statistic is not representative of the actual vote (48.1% Remain and 51.9% Leave), our data does provide sufficient variation in voting preference in order to test the impact of social psychological variables on voting decisions.

All participants were followed up one week after the referendum to measure their self-reported voting behavior. Specifically, we asked participants: “What did you vote in the UK’s EU referendum?” (*1 = Stay in the EU, 2 = Leave the EU*). Ninety-six point four percent of the study participants voted in the EU referendum, of those 65.8% voted Remain and 34.2% voted Leave. In the analyses below voting behavior was coded as follows: 1 = did not vote / voted Remain, 2 = voted Leave. Of 197 participants, 15 changed their minds from Remain/not sure to Leave and four changed their minds from Leave to Remain/did not vote.

Results

Preliminary Analyses

To determine whether the dropout from Time 1 to Time 2 was random, we conducted a MANOVA on all variables of interest measured at Time 1 (dangerous worldview, conservatism, European identity, British identity, realistic threat, symbolic threat, intergroup anxiety, and voting intentions). This analysis yielded no significant univariate effects (all $F_s(1, 241) \leq 1.81, p = .179$, partial $\eta^2 = .007$; Multivariate $F(8, 234) < 1$; Wilk's $\Lambda = 0.970$, partial $\eta^2 = .030$). This suggests that missing values can be considered random. Therefore, all respondents who participated at Time 1 ($N = 244$) were included in the final SEM analysis using the MAR (missing at random) function. MAR is appropriate for longitudinal studies when some participants do not respond at follow-up (Schafer & Graham, 2002) and has advantages over MCAR (missing completely at random) assumptions. Furthermore, the effects of this function on estimates and standard errors are minor in case the assumption of randomness is incorrect (Collins, Schafer, & Kam, 2001; Edwards, Lipponen, Edwards, & Hakonen, 2017).

Table 1 depicts the bivariate correlations between the variables. Both the person and social variables were significantly correlated with voting intentions and behavior in the predicted directions. The only non-significant relationships involved British identification with European identification and with symbolic threat.

Sequential Mediation Analyses

We tested whether and how person and social variables predicted voting decisions using a structural equation model with latent variables (Mplus Version 7.4, Muthén & Muthén, 1998-2013 with WLSMV estimation and 1,000 bootstraps; see Figure 1). The model fit the data well $\chi^2(506, N = 244) = 782.57, p < .001$; $RMSEA = .047$, $WRMR = .60^3$. As chi-square is sensitive to sample size, we also calculated the relative chi-square for our model

which divides the chi-square index by the degrees of freedom. The relative X^2 for our model is 1.55, which meets the necessary criteria for acceptance (< 2 recommended by Ulman, 2001; < 5 recommended by Schumacker & Lomax, 2004).

Results showed that, as hypothesized, those who scored higher on dangerous worldview and those who scored higher on conservatism perceived greater intergroup threats (i.e. realistic threat, symbolic threat, and intergroup anxiety). Moreover, those higher in conservatism showed a stronger British identity and weaker European identity, while higher dangerous worldview was associated with weaker European identity (but was unrelated to British identity). As hypothesized, perceived realistic threat and British identity (positively) and European identity (negatively) predicted intentions to vote Leave. Symbolic threat did not significantly predict voting intentions and intergroup anxiety marginally predicted voting intentions. Finally, voting intentions (measured pre-vote) significantly and strongly predicted voting behavior (measured post-vote). Overall, indirect effects showed support for a sequential mediation whereby dangerous worldview positively predicted voting intentions and behavior via European identity and via realistic threat. Moreover, conservatism positively predicted voting intentions and behavior via realistic threat. There were also marginally significant indirect paths from conservatism to voting decisions via British identity, European identity, and intergroup anxiety (see Figure 1 for direct effects and Table 2 for indirect effects).

Alternative Model

Given the correlational nature of the data we tested an alternative model in which we reversed the sequence of the predictors and tested the possibility of social variables being distal predictors and person variables being proximal predictors of voting decisions. The fit indices for the alternative model are as follows: $X^2(509, N = 244) = 885.30, p < .001$; $RMSEA = .055$, $WRMR = .70$, relative $X^2 = 1.74$. Results showed that only realistic threat and

European identity predicted dangerous worldview and only British identity predicted conservatism. Moreover, the direct effect of dangerous worldview on voting intentions was only marginally significant and the direct effect of conservatism on voting intentions was not significant. Despite the non-significant effect of dangerous worldview on voting, there were significant indirect effects from dangerous worldview to voting decisions through European identity and realistic threat. Nevertheless, the non-significant direct paths from dangerous worldview and conservatism to voting provide support for our assumption that in explaining voting decisions in the EU referendum person variables acted as distal whereas social variables acted as proximal predictors of voting decisions in the EU referendum (see supplemental materials for all direct and indirect effects).

Discussion

2016-2017 was a period of significant political and social change in the UK. Various political and media commentators have argued that particular motives or sentiments drove the Brexit vote (e.g., “fears over immigrants stealing our jobs” and “willingness to regain control and be great again”), and many of these speculations involve social psychological variables, such as intergroup threat and willingness to protect national identity. The present paper uses social psychological theory to test a person and social account of voters' decision making.

In line with our hypotheses, person factors (conservatism and dangerous worldview) and social factors (perceived intergroup threat and social identity) predicted voting decisions in the EU referendum. More specifically, the structural equation analyses supported the sequential mediation hypothesis that person factors predicted voting decisions through their impact on social factors. We now discuss the results for each predictor in turn.

Considering the proximal predictors of voting, in line with the threat-specificity hypothesis (Abrams et al., 2017), different types of threat related differently to voting decisions. As hypothesized, realistic threat positively and strongly predicted voting

intentions. In contrast, and despite a positive correlation between intergroup anxiety and voting decisions, intergroup anxiety negatively predicted voting intentions (albeit marginally). This negative independent relationship may be explained by the multi-dimensional nature of intergroup anxiety. Indeed, intergroup anxiety may not only measure apprehension towards the outgroup, but also individual's concerns over appearing prejudiced or over ensuring positive encounters (Stephan et al., 2000). Finally, and again despite the significant positive correlations between symbolic threat and voting decisions, symbolic threat did not independently predict voting intentions. These results are in line with the threat-specificity hypothesis which argues that the impact of specific types of threat may vary depending on the specific intergroup dynamic. Our results show that, in the current EU referendum context, it was realistic threat (rather than intergroup anxiety and symbolic threat) that significantly predicted voting decisions.

Furthermore, and in line with our hypotheses, both European identity (negatively) and British identity (positively) independently predicted voting decisions, and European identity predicted voting decisions particularly strongly. In the ultimate decision to remain in or leave the superordinate group, it seems that common group identification was a powerful proximal predictor. This finding is also consistent with recent evidence from regional surveys in the south east of England and in Scotland showing that realistic threat and European identification predicted intention to vote Leave (Abrams & Travaglino, 2017). The present research complements that evidence by demonstrating a role for more distal predictors and confirming the implications for actual voting behaviour.

Turning to the distal predictors, in support of our hypotheses and past evidence (Jost et al., 2003; Onraet et al., 2013), individual differences in worldview (positively) and conservatism (positively) independently accounted for differences in all three threats and both types of identification (with the exception of the link between dangerous worldview and

British identification). This implies a fairly diffuse, or non-specific, effect on these threats and identities. Both of the person variables contributed independently to the prediction of voting decisions via perceived realistic threat and via (primarily European) identity. This might suggest that (1) voting Leave was a response partially triggered by the need to establish greater certainty and control over perceived threats, whereas (2) voting Remain reflected people's desire to remain a part of their superordinate category.

Theoretical Implications

A methodological issue affecting all research on decisive referenda, is that the social context cannot be repeated. That is, the social and political conditions prior to the vote are different from those following the vote, especially if the vote precipitates wholesale constitutional change. There is no obvious control situation across the same time and context, and so each situation has to be treated as, to some extent, unique. The value, however, of studying how people make such crucial decisions is that the evidence can strongly inform and help to develop theory. In particular, the present evidence highlights that intergroup threats can be shaped differently and might have different outcomes on behavior according to the specificities of the context. These findings are in line with the threat specificity hypothesis which holds that the impact of different types of psychological variables on outgroup attitudes varies by the specific context (Abrams & Eller, 2017; Abrams et al., 2017). In the EU referendum context, we found that realistic threat played an especially potent role in shaping intentions, and that European (rather than British) identification may have had the strongest role in predicting final voting decisions.

This research further contributes to the growing person and social analyses of attitudes and behavior (see Hodson & Dhont, 2015). In their review paper, Hodson and Dhont (2015) stress the importance of both person and social factors for predicting social attitudes and behaviors. They call for a better integration of person and social factors in order to

effectively capture the complexity of socio-political attitudes. In the current paper we show that person and social factors are indeed each important predictors of socio-political decisions. However, our data also support a sequential mediation model whereby person factors predict socio-political decision making via their predictive effects on perceptions of social factors. Put differently, the effects of ideology and worldview on voting decisions were mediated by two social psychological factors: perceived intergroup threat and social identity. Moreover, a reversed sequential mediation test showed that person variables had no direct effects on voting decisions. We hope that this empirical analysis of Brexit will contribute to social psychological and personality science generally, and stimulate new avenues of research on social and political behavior more specifically.

Applied Implications

What might be the implications of this research for interventions designed to reduce division, intolerance, and prejudice (rather than designed to influence political behavior specifically)? It seems likely that changing people's worldview or their political conservatism might be a long-term task. However, we note that the proximal predictors were not fully explained by the distal predictors. This indicates that other factors may have influenced the proximal predictors of voting. Social psychological research shows that it is possible to design interventions to reduce perceived threat, even amongst individuals who might be predisposed to view the world through such a lens (see Hodson & Dhont, 2015; Paluck & Green, 2009). The current research showed that holding a common ingroup identity was associated with pro-Remain voting. In other words, even though individual differences in worldview and conservatism positively predict Leave voting, European identity attenuated such decisions. Past research shows that very straightforward interventions can induce feelings of a common group identity (Dovidio et al., 2009; Levine et al., 2005).

Limitations and Future Directions

We are conscious that the present research has some limitations. One of these is that the sample was not fully representative of the electorate during the referendum. However, the choice of the sample meant that, within financial and time constraints, we were able to use high quality measures for the constructs of interest, and therefore to focus on testing the hypothesized relationships amongst them. The sample means are unlikely to be representative of the general population, but the sample was diverse in many respects and included sufficient numbers of Leave supporters to enable us to identify and test theoretically relevant predictors of voting. Moreover, while we employed a crowdsourcing platform to collect our data, recent analyses of crowdsourcing methods show that participants tend to be more diverse and that responses tend to be more reliable than those obtained via traditional methods (Buhrmester, Kwang, & Gosling, 2011; Peer, Samat, Brandimarte, & Acquisti, 2017).

A further limitation is that we cannot speak to causality. For example, it is plausible that the predictors in our model may have sequential effects on one another (e.g., threat on social identity). This warrants further longitudinal research to fully investigate how variables influence one another over time (Abrams & Eller, 2017). Nevertheless, our pre-specified structural equation model is grounded in well-established social psychological theory, indicating that the causal paths are plausible. Furthermore, given the nature of voting decisions and hence the legal impossibility of collecting real-time behavioral responses, it is plausible that some participants may not have answered truthfully when self-reporting their voting decisions in the current study. However, the strong correlation between intention and retrospectively reported behavior supports the assumption that these outcome measures were valid.

The current research demonstrates the impact of social identities (British and European) on voting decisions. Specifically, British identity predicted increases in Leave

voting while European identity predicted increases in Remain voting. An interesting future direction for this line of research would be to draw on the social psychological model of schism in groups (Sani, 2005) to explore the impact of the EU referendum on people's British and European identities over time.

Conclusion

On the 23rd June 2016 the UK public voted to leave the EU with a 52% majority, following a campaign that exposed a range of social divisions (Abrams, 2016). The aim of this paper was to conduct a theoretically grounded cross-sectional study to understand people's voting decisions. Employing a person and social approach (Hodson & Dhont, 2015), our analysis of voting decisions in the UK's 2016 EU referendum show that social psychological theories offer an important contribution in explaining voting decisions in a real world context. Our study showed that person factors (worldview and conservatism) predicted voting decisions through their impact on social factors (European identity and realistic threat). Specifically, individuals' dangerous worldviews and their conservatism predicted decisions to vote Leave via reduced European identity and via increased realistic threat. The evidence highlights the importance of addressing threat-based intergroup rhetoric, and the potential of common ingroup identity for mitigating its divisive effects.

Footnotes

¹ This study was part of a large-scale investigation of the Brexit referendum that includes other variables that are not used in the present paper.

² Results remain consistent whether we include or exclude participants who reported being unsure of what to vote for (Wave 1) or who did not vote (Wave 2) from the analyses.

³ Given that age has been discussed as an important factor in explaining the results of the Brexit referendum, we tested an alternative model in which age is an antecedent of dangerous worldviews and conservatism. The model did not fit the data as well as our core model did, $\chi^2(539, N = 244) = 1364.35, p < .001$; $RMSEA = .08$, $WRMR = 1.35$. Results show that age was positively associated with both dangerous worldview ($\beta = .67, SE = .12, 95CI .41, .81, p < .001$) and conservatism ($\beta = .98, SE = .01, 95CI .97, .99, p < .001$). However none of the indirect effects were significant.

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A PERSON AND SOCIAL ANALYSIS OF BREXIT

Table 1

Correlations, Means and Standard Deviations

Variable	1	2	3	4	5	6	7	8	9
1. Dangerous Worldviews									
2. Conservatism	.34***								
3. British Identity	.17**	.29***							
4. European Identity	-.27***	-.23***	.05						
5. Symbolic Threat	.46***	.30***	.08	-.25***					
6. Realistic Threat	.59***	.44***	.25***	-.41***	.62***				
7. Intergroup Anxiety	.42***	.38***	.16*	-.25***	.47***	.68***			
8. Voting Leave Intentions	.38***	.33***	.21**	-.48***	.36***	.63***	.33***		
9. Voting Leave Behavior	.41***	.34***	.24**	-.48***	.35***	.58***	.32***	.78***	
<i>M (SD)</i>	2.95 (1.21)	3.31 (1.36)	4.80 (1.42)	3.94 (1.49)	2.90 (1.04)	2.42 (1.13)	1.82 (0.98)	73.4%	66.5%
<i>95CI</i>	[2.80, 3.10]	[3.14, 3.48]	[4.62, 4.98]	[3.76, 4.13]	[2.77, 3.03]	[2.28, 2.56]	[1.70, 1.95]	[67.6, 78.7]	[59.4, 73.1]

Note. Voting behavior $N = 197$. All other $N = 244$. Mean scores were used for variables 1-7. Dangerous worldview and perceived intergroup threats were measured from 1 (*strongly disagree*) to 5 (*strongly agree*). Conservatism was measured from 1 (*very liberal*) to 7 (*very conservative*). British and European identity were measured from 1 (*strongly disagree*) to 7 (*strongly agree*).

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 2**Summary of Indirect Effects for each of the Sequential Paths Predicting Voting Intention and Behavior**

	Indirect effect on voting intention	Indirect effect on voting behavior (via voting intention)
Dangerous worldview > European identity	$\beta = .10, SE = .04, 95CI [.02/.18], p = .020$	$\beta = .09, SE = .04, 95CI [.02/.17], p = .020$
Dangerous worldview > British identity	$\beta = .01, SE = .02, 95CI [-.02/.06], p = .430$	$\beta = .01, SE = .02, 95CI [-.01/.06], p = .431$
Dangerous worldview > realistic threat	$\beta = .43, SE = .14, 95CI [.23/.74], p = .001$	$\beta = .41, SE = .13, 95CI [.22/.70], p = .001$
Dangerous worldview > symbolic threat	$\beta = -.01, SE = .06, 95CI [-.12/.09], p = .929$	$\beta = -.01, SE = .05, 95CI [-.11/.09], p = .928$
Dangerous worldview > intergroup anxiety	$\beta = -.10, SE = .07, 95CI [-.27/-.02], p = .119$	$\beta = -.10, SE = .06, 95CI [-.26/-.02], p = .114$
Conservatism > European identity	$\beta = .07, SE = .04, 95CI [.01/.15], p = .063$	$\beta = .06, SE = .03, 95CI [.01/.14], p = .063$
Conservatism > British identity	$\beta = .05, SE = .03, 95CI [.01/.11], p = .055$	$\beta = .05, SE = .03, 95CI [.01/.11], p = .055$
Conservatism > realistic threat	$\beta = .21, SE = .09, 95CI [.09/.41], p = .016$	$\beta = .20, SE = .08, 95CI [.09/.39], p = .014$
Conservatism > symbolic threat	$\beta = -.002, SE = .02, 95CI [-.04/.03], p = .928$	$\beta = -.002, SE = .02, 95CI [-.04/.03], p = .928$
Conservatism > intergroup anxiety	$\beta = -.08, SE = .04, 95CI [-.17/-.02], p = .087$	$\beta = -.07, SE = .04, 95CI [-.17/-.01], p = .085$

Notes. Voting intention and behavior were coded as 1 = Remain/not voting/not voted, 2 = Leave; Bootstrap confidence bias-corrected method was used; coefficients are standardized.

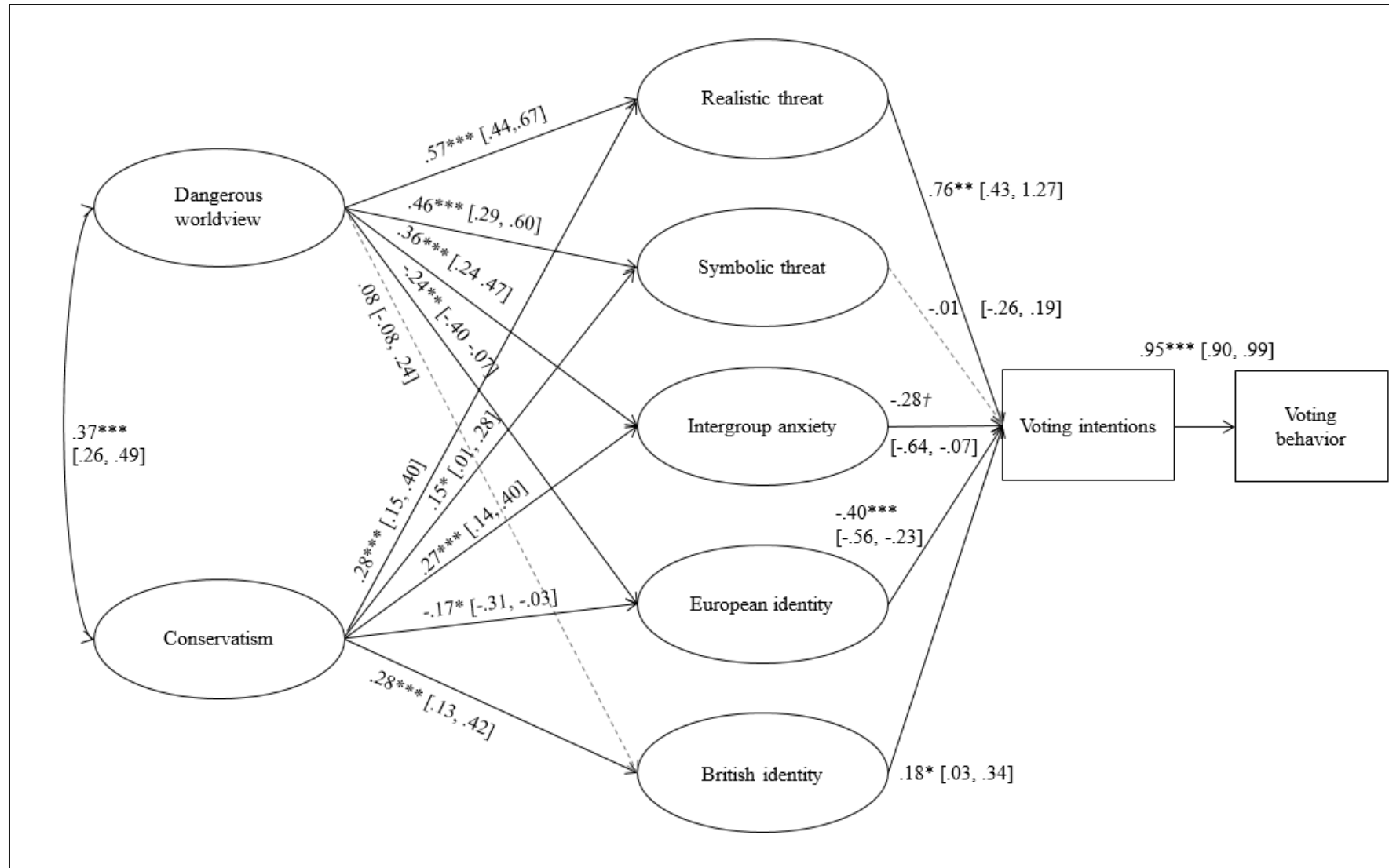


Figure 1. Structural Equation Modeling (using Mplus, WLSMV estimation) showing the standardized regression paths. 95CIs are depicted in the square brackets. Voting intentions and behavior were observed variables coded as 1 = remain/did not vote, 2 = leave. Dashed paths represent non-significant paths. Both exogenous variables (dangerous worldview and conservatism) were allowed to correlate with one another. Mediators were also allowed to covary with one another.

$\dagger p < .10$. $*p < .05$. $**p < .01$. $***p < .001$.